Author Index to Volume XI

Adachi, H.
—; Basco, N.; James, D. G. L.: A Quantitative Study of Alkyl Radical Reactions by Kinetic Spectroscopy III. Absorption Spectrum and Rate Constants of Mutual Interaction for the Ethyl Radical, 995
—; Basco, N.; James, D. G. L.: The Ethylperoxy Radical Spectrum and Rate Constant for Mutual Interaction Measured by Flash Photolysis and Kinetic Spectroscopy, 1211
Ahmad, I.
—; Ashraf, C. M.: Kinetics and Mechanism of Palladium (II) Chloride Catalyzed Oxidation of Allyl Alcohol by Potassium Hexacyanoferrate (III), 813
Aloni, R.
—; Rajbenbach, L. A.; Horowitz, A.: Abstraction of Chlorine Atoms from Chloroalkanes. V. The Liquid-Phase Reaction Between Et_3SiH Radicals and CH_2Cl_2, $CHCl_3$, CCl_4, and CCl_3CN, 899
Alonso, M. E. See Chuchani, G., 103
Ando, H. See Fujii, N., 285
Arcoleo, G.
—; Calvaruso, G.; Cavasino, F. P.; Di Dio, E.: Kinetics of Cerium(IV) Oxidation of Mandelic Acid. Ionic Strength and Specific Cation Effects, 415
Arnts, R. R. See Dodge, M. C., 399
Arora, P. K. See Chatha, J. P. S., 175
Asaba, T. See Fujii, N., 285; Koshi, M., 305
Ashraf, C. M. See Ahmad, I., 813
Atkinson, B.
—; Tsiamis, C.: Kinetics of Cyclodimerization of Hexafluoropropene and of Its Cycloaddition to Chlorotrifluoroethene, 1029
—; Tsiamis, C.: The Kinetics of Dimerization of Chlorotrifluoroethene, 585
Avila, I. See Chuchani, G., 561

Back, M. H.
—; Martin, R.: The Thermal Reactions of Ethylene at 500°C in the Presence and Absence of Small Quantities of Oxygen, 757
Baghal-Vayjooee, M. H.
—; Colussi, A. J.; Benson, S. W.: The Very-Low-Pressure Study of the Kinetics and Equilibrium: $Cl + CH_4 \rightleftarrows CH + HCl$ at 298 K. The Heat of Formation of the CH_3 Radical, 147
Baldwin, A. C.
—; Lewis, K. E.; Golden, D. M.: Very-Low-Pressure Pyrolysis (VLPP) of Group IV(A) Tetramethyls: Neopentane and Tetramethyltin, 529
Barker, J. R. See Ghibaudi, E., 843
Baruch, G. See Horowitz, A., 1263
Basco, N. See Adachi, H., 995, 1211
—; Hunt, J. E.: Mutual Combination of ClO Radicals, 649
Basilevsky, M. V.
—; Weinberg, N. N.; Zhulin, V. M.: Estimating the Positions of Transition States from Experimental Data, 853
Batt, L.
—; Robinson, G. N.: Reaction of Methoxy Radicals with Oxygen. I. Using Dimethyl Peroxide as a Thermal Source of Methoxy Radicals, 1045
The Gas-Phase Decomposition of Alkoxy Radicals, 977
—; Rattray, G. N.: The Reaction of Methoxy Radicals with Nitric Oxide and Nitrogen Dioxide, 1183
Baulch, D. L.
—; Chown, P. K.; Montague, D. C.: Combination and Disproportionation Reactions of Allylic Radicals with Ethyl, Propyl, and *t*-Butyl Radicals, 1055
Belford, R. L.
—; Marquart, J. R.; Fraenkel, H. A.; Cross, A. J., Jr.; Lenhardt, T. M.; Wei, G. J.: Pyrolytic Production of Se (^3P) from Carbon Diselenide. II. Rate of CSe_2 Decay, 1109
Benson, S. W. See Baghal-Vayjooee, M. H., 147; Ghibaudi, E., 843; Hwang, R. J., 579
Berces, T. See Forgeteg, S., 219, 239
Bernasconi, C. F.
—; Wang, H-C.: Anionic σ-Complexes from Sulfite Ion Attack on *N*-Methyl-*N*-β-Hydroxyethyl Picramide and Its Spiro Complex. Search for Geometric Isomerism in 1:2 Complexes. An Instructive Example of Complex Kinetics, 375
Bonner, F. T. See Haim, A., 339
Boyd, A. W. See Carver, M. B., 1097

Calvaruso, G. See Arcoleo, G., 415
Calvert, J. G. See Kan, C. S., 921
Carter, W. P. L.
—; Lloyd, A. C.; Sprung, J. L.; Pitts, J. N., Jr.: Computer Modeling of Smog Chamber Data: Progress in Validation of a Detailed Mechanism for the Photooxidation of Propene and *n*-Butane in Photochemical Smog, 45
Carver, M. B.
—; Boyd, A. W.: A Program Package Using Stiff, Sparse Integration Methods for the Automatic Solution of Mass Action Kinetics Equations, 1097
Cavasino, F. P. See Arcoleo, G., 415
Chatha, J. P. S.
—; Arora, P. K.; Raja, S. N.; Kulkarni, P. B.; Vohra, K. G.: Collisional Deactivation of $O_2(\Sigma_g^+)$, 175
Chown, P. K. See Baulch, D. L., 1055
Christov, S. G.
—; Parlapanski, M.: Quantum Effects and Isotope Effects in Chemical Kinetics, 665

Chuchani, G.
—; Hernandez, J. A.; Alonso, M. E.: A Correction of the Taft Correlation for Halogen Substituents in Isopropyl α-Halo Acetates Pyrolyses (Erratum), 103
—; Martin, I.; Avila, I.: Effect of Substituents in the Gas-Phase Elimination Kinetics of Substituted Ethyl Acetates, 561
—; Martin, I.; Martin, G.: Neighboring Group Participation of Polar β Substituents in the Gas-Phase Pyrolysis of 2-Substituted Ethyl Chlorides, 109
—; Hernandez A., J. A.; Martin, I.: Neighboring Olefinic Double-Bond Participation in Gas Phase Pyrolysis of Some Alkenyl Chlorides, 1279
Cohen, N.
Review of *Gas Kinetics and Energy Transfer, Vol. 3: A Specialist Periodical Report*, P. G. Ashmore and R. J. Donovan, 1295
Colussi, A. J. See Baghal-Vayjooee, M. H., 147
Combourieu, J. See Jourdain, J. L., 569
Cox, R. A.
—; Patrick, K.: Kinetics of the Reaction HO_2 + $NO_2(+M)$ = HO_2NO_2 Using Molecular Modulation Spectrometry, 635
Cross, A. J., Jr. See Belford, R. L., 1109
Cvetanovic, R. J. See Kajimoto, O., 605
Czarnowski, J.
—; Schumacher, H. J.: Kinetics of the Thermal Decomposition of Bis-Pentafluorosulfur Trioxide ($SF_5O_3SF_5$) in the Presence of Carbon Monoxide, 1089
—; Schumacher, H. J.: The Kinetics and the Mechanism of the Thermal Decomposition of Bis-Pentafluorosulfurtrioxide (SF_5OOOSF_5), 613

Davis, D. D. See Watson, R. T., 187
Davis, H.
Comments on the Paper "Gas-Phase Pyrolysis of 2,2,3,3-Tetramethylbutane Using a Wall-less Reactor" (Communication), 1131
de Jonge, C. R. H. I. See Khudyakov, I. V., 357
de Maleissye, J. T. See Pazendeh, H., 595
Di Dio, E. See Arcoleo, G., 415
Dobe, S. See Forgeteg, S., 219
Dodge, M. C.
—; Arnts, R. R.: A New Mechanism for the Reaction of Ozone with Olefins, 399
Dougherty, E. P.
—; Rabitz, H.: A Computational Algorithm for the Green's-Function Method of Sensitivity Analysis in Chemical Kinetics, 1237

Edelson, D.
—; Noyes, R. M.; Field, R. J.: Mechanistic Details of the Belousov–Zhabotinsky Oscillations. II. The Organic Reaction Subset, 155
Mechanistic Details of the Belousov–Zhabotinsky Oscillations. III. The Induction Period, 1231
The Question of the Applicable Time Regime for the Steady-State Approximation in the Simulation of Complex Mechanisms, 687

Failes, R. L.
—; Mollah, Y. M. A.; Shapiro, J. S.: Evidence for α-Elimination from Neopentyl Chloride in the Gas Phase, 1271

Falls, A. H.
—; McRae, G. J.; Seinfeld, J. H.: Sensitivity and Uncertainty of Reaction Mechanisms for Photochemical Air Pollution, 1137
Ferrero, J. C.
—; Staricco, E. H.: The Kinetics of the Gas-Phase Thermal Isomerization and Decomposition of *Trans*- and *Cis*-1,2-Bis(trifluoromethyl)-1,2,3,3-Tetrafluorocyclopropane, 1287
Field, R. J. See Edelson, D., 155
Fischer, H. See Lehni, M., 705
Forgeteg, S.
—; Berces, T.; Dobe, S.: The Kinetics and Mechanism of *n*-Butyraldehyde Photolysis in the Vapor Phase at 313 nm, 219
—; Berces, T.: The Photolysis of *n*-Butyraldehyde in Isooctane at 313 nm, 239
Foucaut, J. F.
—; Martin, R.: Wall Effects in the Pyrolysis of Diethylether. A Case of Hetero-Homogeneous Pyrolysis at 500C, 789
Fraenkel, H. A. See Belford, R. L., 1109
Frisch, H. L.
Review of *Classical Kinetic Theory of Fluids*, R. Resibois and M. de Leener, 105
Fujii, N.
—; Koshi, M.; Ando, H.; Asaba, T.: Evaluation of Boundary-Layer Effects in Shock-Tube Studies of Chemical Kinetics, 285
Fujisaki, N.
—; Gaumann, T.: Disproportionation-to-Combination Ratios for Cyclohexyl-h_{11} and -d_{11} Radicals in the Gas Phase as Determined by the Radiolysis of Water Vapor–Cyclohexane Mixtures, 345
Furrow, S. D.
Kinetics and Mechanism for the Iodination of Methylmalonic Acid, 131

Gaffney, J. S.
—; Levine, S. Z.: Predicting Gas Phase Organic Molecule Reaction Rates Using Linear Free-Energy Correlations. I. $O(^3P)$ and OH Addition and Abstraction Reactions, 1197
Gardiner, W. C., Jr. See Olson, D. B., 23
Gaumann, T. See Fujisaki, N., 345
Gaynor, B. J. See Gilbert, R. G., 317; King, K. D., 11
Ghibaudi, E.
—; Barker, J. R.; Benson, S. W.: Reaction of NO with Hypochlorous Acid, 843
Gilbert, R. G. See King, K. D., 11
—; Gaynor, B. J.; King, K. D.: The Interpretation of Pressure-Dependent Very-Low-Pressure Pyrolysis Experiments, 317
Golden, D. M. See Baldwin, A. C., 529; Rossi, M., 715, 775, 969
Griller, D. See Schmid, P., 333
—; Marriott, P. R.: Primary Alkyl Radicals: Can They Be Persistent? 1163
Gutman, D. See Slagle, I. R., 453

Haim, A.
—; Wang, N-Y.; Bonner, F. T.: Comments on the Paper "Reaction Between Nitrous Acid and Hydrogen Peroxide in Perchloric Acid Medium" (Communication), 339
Heicklen, J. See Sanhueza, E., 907
Hernandez, J. A. See Chuchani, G., 103
Hernandez A., J. A. See Chuchani, G., 1279
Horowitz, A. See Aloni, R., 899

—; Baruch, G.: Addition of Trichloromethyl Radicals to Tetrachloroethylene, 1263
Hunt, J. E. See Basco, N., 649
Hwang, R. J.
—; Benson, S. W.: Kinetics of Iodination of Hydrogen Sulfide by Iodine and the Heat of Formation of the SH Radical, 579

Ingold, K. U. See Schmid, P., 333

Jadhav, M. B. See Mahadevappa, D. S., 261
James, D. G. L. See Adachi, H., 995, 1211
Jeffers, P. M.
—; Northing, J.: Sampling Effects on Observed Cyclopropane Isomerization in a Single Pulse Shock Tube, 915
Jourdain, J. L.
—; Le Bras, G.; Combourieu, J.: Kinetic Study of Some Elementary Reactions of Sulfur Compounds Including Reactions of S and SO with OH Radicals, 569

Kajimoto, O.
—; Cvetanovic, R. J.: Absolute Quantum Yield of $O(^1D_2)$ in the Photolysis of Ozone in the Hartley Band, 605
Kan, C. S.
—; McQuigg, R. D.; Whitbeck, M. R.; Calvert, J. G.: Kinetic Flash Spectroscopic Study of the CH_3O_2–CH_3O_2 and CH_3O_2–SO_2 Reactions, 921
Khudyakov, I. V.
—; Yasmenko, A. I.; Kuzmin, V. A.: Bimolecular Self-Reactions of 2-Arylindandione-1,3-yl Radicals Studied by Flash Photolysis, 621
—; Levin, P. P.; Kuzmin, V. A.; de Jonge, C. R. H. I.: Bimolecular Self-Reactions of Phenyl-Substituted Phenoxyl Radicals Studied by Flash Photolysis, 357
King, K. D. See Gilbert, R. G., 317
—; Gaynor, B. J.; Gilbert, R. G.: Competitive Unimolecular Reactions at Low Pressures. The Pyrolysis of Cyclobutyl Chloride, 11 Very Low-Pressure Pyrolysis (VLPP) of Hex-1-ene. Kinetics of the Retro-ene Decomposition of a Mono-Olefin, 1071
Koda, M.
—; Seinfeld, J. H.; McRae, G. J.: Automatic Sensitivity Analysis of Kinetic Mechanisms, 427
Koshi, M. See Fujii, N., 285
—; Asaba, T.: Shock-Tube Study of Thermal Decomposition of Nitric Oxide between 2700 and 3500 K, 305
Kulkarni, P. B. See Chatha, J. P. S., 175
Kuzmin, V. A. See Khudyakov, I. V., 357, 621

Le Bras, G. See Jourdain, J. L., 569
Lehni, M.
—; Schuh, H.; Fischer, H.: Rate Constants for the Termination of Benzyl Radicals in Solution, 705
Leitich, J.
Kinetics of the Thermal Dimerization and Isomerization of *cis,trans*-1,5-Cyclooctadiene in the Gas Phase and of Related Reactions: A Simple Algorithm to Determine the Rate Constants of Competing First- and Second-Order Reactions, 1249
Lempereur, F. See Pazendeh, H., 595
Lenhardt, T. M. See Belford, R. L., 1109
Leska, F. See Newman, C. G., 1167
Levin, P. P. See Khudyakov, I. V., 357
Levine, S. Z. See Gaffney, J. S., 1197
Levy, J. B. See Viviani, D., 1021
Lewis, K. E. See Baldwin, A. C., 529
Liebhafsky, H. A.
—; Roe, G. M.: The Detailed Mechanism of the Dushman Reaction Explored by Computer, 693
Lin, M. C. See Tevault, D. E., 445
Lloyd, A. C. See Carter, W. P. L., 45

Machado, G. See Watson, R. T., 187
Macken, K. V.
—; Sidebottom, H. W.: The Reactions of Methyl Radicals with Chloromethanes, 511
Mahadevappa, D. S.
—; Jadhav, M. B.; Naidu, H. M. K.: Kinetics and Mechanism of Oxidation of Dimethyl Sulfoxide by Chloramine-T in Aqueous Solution, 261
Malins, R. J.
—; Tardy, D. C.: Weak Collision Effects: Non-Steady-State Thermal Unimolecular Reactions, 1007
Marchant, P. E. See Pritchard, G. O., 951
Marquart, J. R. See Belford, R. L., 1109
Marriott, P. R. See Griller, D., 1163
Marsal, C. See Pazendeh, H., 595
Marshall, R. M. See Sepehrad, A., 411
—; Page, N. D.: Radical Equilibrium Studies. II. The Thermodynamic Parameters of *s*-Butyl, 199
Martin, G. See Chuchani, G., 109
Martin, I. See Chuchani, G., 109, 561, 1279
Martin, L. R.
—; Wren, A. G.; Wun, M.: Chlorine Atom and ClO Wall Reaction Products, 543
Martin, R. See Back, M. H., 757; Foucaut, J. F., 789
McQuigg, R. D. See Kan, C. S., 921
McRae, G. J. See Falls, A. H., 1137; Koda, M., 427
Michael, J. V.
—; Payne, W. A.: Absolute Rate Constants for the Reaction of Bromine Atoms with Ozone from 234 to 360 K, 799
Mollah, Y. M. A. See Failes, R. L., 1271, 1271
Montague, D. C. See Baulch, D. L., 1055
Morris, D. F. C.
—; Ritter, T. J.: Reduction of Hexachloroiridate (IV) by Benzene-1,2-diol in Aqueous Perchloric Acid, 1081

Naidu, H. M. K. See Mahadevappa, D. S., 261
Narasimhan, S.
—; Venkatasubramanian, N.: Oxidation of Fluorenes by Ammonium Meta Vanadate—A Kinetic Study, 883
Newman, C. G.
—; O'Neal, H. E.; Ring, M. A.; Leska, F.; Shipley, N.: Kinetics and Mechanism of the Silane Decomposition, 1167
Northing, J. See Jeffers, P. M., 915
Noyes, R. M. See Edelson, D., 155; Pilling, M. J., 821

Olbregts, J.
Competitive Chlorination–Dehydrochlorination of 1,1,1,2-$C_2H_2Cl_4$, 117
Oldenborg, R. C. See Wampler, F. B., 125, 275
Olson, D. B.
—; Tanzawa, T.; Gardiner, W. C., Jr.: Thermal Decomposition of Ethane, 23

O'Neal, H. E. See Newman, C. G., 1167

Page, N. D. See Marshall, R. M., 199
Panda, M. See Pati, S. C., 731
Parlapanski, M. See Christov, S. G., 665
Pati, S. C.
—; Panda, M.: Kinetics and Mechanism of Oxidation of Sugars by Quinquevalent Vanadium in Binary Mixture Solvents of DMSO–Water and Acetic Acid–Water in H_2SO_4 Medium, 731
Patrick, K. See Cox, R. A., 635
Paul, H.
Rate Constants for the Combination of Trichloromethyl Radicals and the Electron-Transfer Reaction between Hydroxymethyl Radicals and Carbon Tetrachloride in Solution, 495
Payne, W. A. See Michael, J. V., 799
Pazendeh, H.
—; Marsal, C.; Lempereur, F.; de Maleissye, J. T.: Photosensitized Decomposition of Hydrocarbons by Infrared-Laser-Induced Energy Transfers, 595
Pilling, M. J.
—; Noyes, R. M.: A Model for Explosions during Carbon Monoxide Oxidation, 821
Pitts, J. N., Jr. See Carter, W. P. L., 45
Pritchard, G. O.
—; Marchant, P. E.; Steel, C.: Excited-State Kinetics of Azoalkanes Some Further Studies with Azoethane, Azo-*n*-propane, and Azoisopropane, 951
Purmal, A. P. See Shtamm, E. V., 461
Purnell, H. See Sepehrad, A., 411

Rabitz, H. See Dougherty, E. P., 1237
Raja, S. N. See Chatha, J. P. S., 175
Rajbenbach, L. A. See Aloni, R., 899
Rao, T. N. See Rao, V. S., 165
Rao, V. S.
—; Sethuram, B.; Rao, T. N.: Kinetics of Oxidation of Some Amino Acids by $KMnO_4$ in a Moderately Concentrated H_2SO_4 Medium in the Presence and Absence of Ag^+, 165
Rattray, G. N. See Batt, L., 1183
Ravishankara, A. R. See Watson, R. T., 187
Rice, W. W. See Wampler, F. B., 125, 275
Ring, M. A. See Newman, C. G., 1167
Ritter, T. J. See Morris, D. F. C., 1081
Robinson, G. N. See Batt, L., 1045
Robinson, P. J.
—; Waller, M. J.: Kinetics of the Reactions of Cyclopropane Derivatives. V. The Gas-Phase Unimolecular Reactions of 1α-Chloro-2α,3α-dimethylcyclopropane and 1α-Chloro-2α,3β-dimethylcyclopropane, 937
Roe, G. M. See Liebhafsky, H. A., 693
Rossi, M.
—; Golden, D. M.: Homogeneous Decomposition of Vinyl Ethers. The Heat of Formation of Ethanal-2-yl, 715
—; Golden, D. M.: Rate of Decomposition of Hexafluoroazomethane and the Absolute Rate of Recombination of Trifluoromethyl Radical at Higher Temperatures, 775
—; Golden, D. M.: The Absolute Rate Constant for the Metathesis $t\text{-}C_4H_9\cdot + DI \rightarrow C_4H_9D + I\cdot$ and the Heat of Formation of the *t*-Butyl Radical, 969

Sanhueza, E.
—; Simonaitis, R.; Heicklen, J.: The Reaction of CH_3O_2 with SO_2, 907
Sapunov, V. N. See Schmid, R., 1, 741
Schmid, P.
—; Griller, D.; Ingold, K. U.: The 5-Hexenyl Cyclization, 333
Schmid, R.
—; Sapunov, V. N.: Kinetics and Mechanism of Acetylacetonate Transfer from Acetylacetonatomanganese(III) to Iron(III) in Acetonitrile Catalysis and Inhibition Effects, 1
—; Sapunov, V. N.: Redox Kinetics of Metal Complexes in Nonaqueous Solutions. V. Kinetics and Mechanism of the Iron(II) Reduction of the Acetylacetonates of Manganese(III) and Cobalt(III) in Acetonitrile, 741
Schneider, F. W.
Review of *Protons and Ions Involved in Fast Dynamic Phenomena*, P. Laszlo, Ed., 1135
Schuh, H. See Lehni, M., 705
Schumacher, H. J. See Czarnowski, J., 613, 1089
Seinfeld, J. H. See Falls, A. H., 1137; Koda, M., 427
Sepehrad, A.
—; Marshall, R. M.; Purnell, H.: A Simple Preparation of Stable, Nonreactive Surfaces for Gas Kinetic Studies of Reactions of Hydrogen Atoms, 411
Sethuram, B. See Rao, V. S., 165
Shapiro, J. S. See Failes, R. L., 1271, 1271
Shipley, N. See Newman, C. G., 1167
Shtamm, E. V.
—; Purmal, A. P.; Skurlatov, Yu. I.: Mechanism of Catalytic Ascorbic Acid Oxidation System Cu^{2+}–Ascorbic Acid–O_2, 461
Sidebottom, H. W. See Macken, K. V., 511
Simonaitis, R. See Sanhueza, E., 907
Skurlatov, Yu. I. See Shtamm, E. V., 461
Slagle, I. R.
—; Gutman, D.: Study of the Reactions of Oxygen Atoms with Carbonothioicdichloride, Carbonothioicdifluoride, and Tetrafluoro-1,3-dithietane, 453
Smardzewski, R. R. See Tevault, D. E., 445
Sprung, J. L. See Carter, W. P. L., 45
Staricco, E. H. See Ferrero, J. C., 1287
Steel, C. See Pritchard, G. O., 951

Tanzawa, T. See Olson, D. B., 23
Tardy, D. C. See Malins, R. J., 1007
Taylor, J. E.
Reply to "Comments on 'Gas-Phase Pyrolysis of 2,2,3,3-Tetramethylbutane Using a Wall-less Reactor' by H. Davis" (Communication), 1133
Tevault, D. E.
—; Lin, M. C.; Umstead, M. E.; Smardzewski, R. R.: Evidence for Production of the Hydroxycarbonyl Radical in the Decomposition of Formic Acid on Platinum, 445
Tsang, W. See Walker, J. A., 867
Tsiamis, C. See Atkinson, B., 585, 1029

Umstead, M. E. See Tevault, D. E., 445

Venkatasubramanian, N. See Narasimhan, S., 883
Viviani, D.
—; Levy, J. B.: The Kinetics of the Solvolysis of Propylene and Cyclopropane in Concentrated Aqueous Sulfuric Acid Relative Energies of the 2-Propyl Cation and Protonated Cyclopropane, 1021

Vohra, K. G. See Chatha, J. P. S., 175

Wagner, S. See Watson, R. T., 187
Walker, J. A.
—; Tsang, W.: Thermal Decomposition of Hexamethylethane in a Flow System, 867
Waller, M. J. See Robinson, P. J., 937
Wampler, F. B.
—; Oldenborg, R. C.; Rice, W. W.: Pressure Saturation of $SO_2(^3B_1\ 0,0,0)$ Lifetimes, 125
—; Rice, W. W.; Oldenborg, R. C.: Quenching of *UF (*A* State) by Alkanes, 275
Wang, H-C. See Bernasconi, C. F., 375
Wang, N-Y. See Haim, A., 339
Watson, R. T.
—; Ravishankara, A. R.; Machado, G.; Wagner, S.; Davis, D. D.: A Kinetics Study of the Temperature Dependence of the Reactions of $OH(^2\Pi)$ with CF_3CHCl_2, CF_3CHClF, and CF_2ClCH_2Cl, 187
Wei, G. J. See Belford, R. L., 1109
Weinberg, N. N. See Basilevsky, M. V., 853
Whitbeck, M. R. See Kan, C. S., 921
Wren, A. G. See Martin, L. R., 543
Wun, M. See Martin, L. R., 543

Yasmenko, A. I. See Khudyakov, I. V., 621

Zhulin, V. M. See Basilevsky, M. V., 853

Subject Index to Volume XI

Communications to the Editor and Errata are indicated by the letters C and E, respectively, following the page number.

Abstraction of Cl-atoms from chloromethanes by Et_3Si radical, 899
—, of H-atoms by radicals CH_3·,CF_3· and Br· from hydrocarbon substrates, 853
—, of H by OH radicals in halogenated ethanes, 187
—, of H, Cl and Br atoms from halomethanes by the methyl radical, 511
Abstraction reactions, of $O(^3P)$ and OH, rate constant correlations, 1197
Activation energies and heat effects, dependence between, 853
Addition, of a Cl atom on trichloroethylene, 117
—, of trichloromethyl radical to tetrachloroethylene, 1263
Addition reactions, of $O(^3P)$ and OH, rate constant correlations, 1197
Amino acids, oxidation by $KMnO_4$, 165
Anchimeric assistance, of olefinic double bond in gas phase pyrolysis of 4-chloro-1-butene and 4-chloro-2-methyl-1-butene, 1279
—, of polar groups in 2-substituted ethyl chlorides pyrolyses, 109
Anionic σ-complexes, sulfite ion attack on *N*-methyl-*n*-β-hydroxyethyl picramide & its spiro complex, 375
Association reaction, of nitrogen dioxide with hydroperoxyl radical, 635

Belousov–Zhabotinsky oscillations, mechanistic details, 155, 1231
Bond dissociation energies, in Cl_2O_2, 649
—, correlation with $O(^3P)$ and OH abstraction reactions, 1197
Bond dissociation energies in H_2S, 579
Book reviews, 105, 1135, 1295
Boundary layer in shock-tubes, effect on kinetics, 285
Boundary layers, effect on NO decomposition in shock-tubes, 305

Catalytic decomposition, of HCOOH on Pt, 445
Cations, specific kinetic effects on the cerium(IV) oxidation of mandelic acid, 415
Chloramine-T, as oxidizer for dimethyl sulfoxide, 261
Chlorination, of 1,1,1,2-$C_2H_2Cl_4$, 117
Cis-trans isomerism, of anionic σ-complexes, 375
Collisional deactivation, of $O_2(^1\Sigma_g^+)$ by oxygen, nitrogen and helium, 175
Collisional energy transfer, from VLPP experiments, 317
Combination, of allylic radicals with ethyl, propyl, and *t*-butyl radicals, 1055
—, of ClO radicals, 649
—, of ethyl radicals, rate constant for mutual c, 995
—, rate constants of for benzyl radicals in solution, 705
—, reaction of hydroxymethyl radicals, trichloromethyl radicals, and of hydroxymethyl with trichloromethyl radicals, 495
Comments, 339(C), 1131(C), 1133(C)
Comparative rate, shock tube kinetic investigation of silane decomposition, 1167
Complex kinetics, instructive example of, 375
Computer integration, program package for the solution of mass action kinetic reactions, 1097
Computer modelling, of the generation and fast reactions of the ethypleroxy radical, 1211
Cope rearrangement, of *cis,trans*-1,5-cyclooctadiene and of *cis*-1,2-divinylcyclobutane, kinetics of 1249
Correlations, of $O(^3P)$ and OH addition and abstraction reactions, 1197
Cyclization, of 5-hexenyl radical, 333
Cycloaddition, of hexafluoropropene to chlorotrifluoroethene, kinetics of, 1029
Cyclodimerization, of hexafluoropropene, kinetics of, 1029
[2+2]-Cyclodimerization, of *cis,trans*-1,5-cyclooctadiene in the gas phase, kinetics and mechanism of, 1249

Decomposition, of bis-pentafluorosulfurtrioxide in the presence of carbon monoxide, 613
—, of chlorocyclopropanes, 937
—, of ethylvinylether, *t*-butylvinyl ether, and benzylvinylether, 715
—, of hexafluoroazomethane, 775
—, of silane in shock waves, 1167
—, of 1,2-*bis*-(trifluoromethyl)-1,2,3,3,-tetrafluorocyclopropane, 1287
Dehydrochlorination, of 1,1,1,2-$C_2H_2Cl_4$, 117
Dimerization, of chlorotrifluoroethene, 585
Dimethyl sulfoxide, oxidation by chloramine-T, 261
Discharge flow technique, resonance fluorescence detection of bromine atom, application to bromine atom with ozone reaction, 799
Disproportionation, of allylic radicals with ethyl radicals, 1055
Disproportionation/combination ratios, for cyclohexyl-h_{11} and -d_{11} radicals, 345
Dissociation, of carbon diselenide in shock waves, 1109
Dushman reaction (reduction of iodate ion by iodate ion in acid solution), discussion of mechanism, 693
—, reconciliation of rate laws, 693

Electrocyclic reactions, of chlorocyclopropanes, 937

Electron paramagnetic resonance, kinetic study of S + OH, SO + OH reactions, 569
Electron spin resonance, with modulated radical initiation, 495
Electron transfer, reaction between hydroxymethyl radicals and carbon tetrachloride, 495
Electron transfer from iron(II) to the acetylacetonates of manganese(III) and cobalt(III) in acetonitrile, 1
α-Elimination, evidence for occurrence in neopentyl chloride pyrolysis, 1271, 1271
Entropy, *t*-butyl radical, 867
Equilibrium constant, for 2ClO Cl_2O_2, 649
Errata, 103
Ethyl acetates, beta substituted, effect on pyrolysis rates, 561
Evans-Polanyi rule, discussion on, 853
Explosion, mechanism of in mixtures of carbon monoxide and oxygen, 821

Flash photolysis, of azoethane in the presence of oxygen, 1211
—, of azoethane, 995
—, of Cl_2O, OClO and Cl_2 + O_2, 649
—, monitoring a weak transient absorbance with a pulsed xenon arc and a dual beam detection system, 1211
—, resonance fluorescence technique, in the study of hydroxyl radical reactions with halogenated ethanes, 187
—, in the study of 2-arylindandione-1,3-yl radical recombination, 621
—, in the study of phenoxyl radical recombination, 357
Flash spectroscopy, kinetic study of methylperoxy radical recombination and reaction with sulfur dioxide, 921
Fourier amplitude sensitivity test, 427
Free radicals, 579

Gas phase decomposition, of alkoxy radicals, 977

Hammond rule, derivation of and range of its validity, 853
Heat effects and activation energies, dependence between, 853
Heat of formation, *t*-butyl radical, 867
—, of *t*-butyl radical, 969
—, of Cl_2O_2, 649
—, of *cis*-1,2-divinylcyclobutane, 1249
—, of protonated cyclopropane and 2-propyl cation in aqueous acid, 1021
5-Hexenyl, cyclization, 333
Hydrocarbons, pyrolysis of, induced by SF_6-CO_2 IR laser, 595
Hydrogen abstraction, of alkanes by $^*UF_6$ (*A*-state), 275
Hydrogen sulfide, reaction with I_2, 579

Ignition, in carbon-monoxide-oxygen mixtures, 687
Inhibition, by toluene, 867
Inner sphere complexing, possible in the reaction between hexachloroiridate (IV) and benzene-1,2-diol, 1081
Iodination, of H_2S, 579
Iodo-methylmalonic acid, equilibrium with iodine and methylmalonic acid, 131
Ionic strength, effects on the kinetic of cerium(IV) oxidation of mandelic acid, 415
Ionization potentials, correlation with O(^{3}P) and OH addition reactions, 1197
Iso nerization, of chlorocyclopropanes, 937
—, of 1,2-*bis*-(trifluoromethyl)-1,2,3,3-tetrafluorocyclopropane, 1287
Isotope effect, in disproportionation-combination reactions of cyclohexyl-n_{11} and -d_{11} radicals, 345

Kinetics, of cerium(IV) oxidation of mandelic acid, 415
—, of cyclopropane decomposition in shock waves, 1167
—, of dimerization of chlorotrifluoroethene, 585
—, of I atom reaction with H_2S, 579
—, of OH reactions with halogenated ethanes, 187
—, of oxidation of amino acids, 165
—, of oxidation of fluorenes by ammonium meta vanadate, 883
—, of silane decomposition in shock waves, 1167
—, of silane decomposition in static system pyrolysis, 1167
—, of $^*UF$ (*A*-state) and alkanes, 275
—, of vanadium oxidation of sugars, 731
Kinetics and equilibrium, of the reactions Cl + CH_4 ⇄ CH + HCl at 298 K, 147
Kinetic spectroscopy, in the measurement of the rate constant for mutual interaction of ethylperoxy radicals, 1211
—, in the measurement of the rate constants for mutual interaction of ethyl radicals, 995
—, in the study of the mutual reactions of ClO radicals, 649

Laser pyrolysis, of hydrocarbons using SF_6 sensitizer, 595
Lifetime, pressure saturation of, 125
—, of $SO_2(^3B_1)$, 125
—, of $^*UF$ (*A*-state), 275
Linear free energy correlations, of O(^{3}P) and OH addition and abstraction reactions, 1197

Matrix isolation study, of HCOOH decomposition on Pt, 445
Mechanism, algorithm for modeling and sensitivity analysis of, 1237
—, for photooxidation of propane and *n*-butane in photochemical smog, 45
—, of *n*-butyraldehyde vapor photolysis, 219
—, of gas-phase reactions of olefins with ozone, 399
—, of oxidation of amino acids by $KMnO_4$, 165
—, of oxidation of sugars by vanadium, 731
—, of reaction, between benzene-1,2-diol and hexachloroiridate (IV), 1081
—, of silane decomposition, 1167
—, of thermal reactions, 757
Mechanism chain, oxidation of ascorbic acid by oxygen, without intermediate free-radicals, 461
Methylmalonic acid, iodination of, 131
Model, calculations for non-steady state thermal systems, 1007
Modeling, of the mechanism of ozonolysis of olefins, 399
—, reactions of propene, *n*-butane and oxides of nitrogen in smog chamber photolysis, 45
—, and sensitivity analysis, algorithm for, 1237
Molecular modulation spectrometry, in study of kinetics of reaction of nitrogen dioxide with hydroperoxyl radical, 635

Mutual interaction, of ethylperoxy radicals, 1211

Neighboring group participation, in gas phase pyrolysis of 4-chloro-1-butene and 4-chloro-2-methyl-1-butene, 1279
—, in the pyrolysis of polar β-substituents of ethyl chlorides, 109
NO_4, scrubbing with hypochloride solutions, 843
Nonaqueous solutions, reduction of metal complexes in, 741

Oscillator strength, of the ethylperoxy radical, 1211
—, of the ethyl radical, 995
Osium tetraoxide, as catalyst for oxidation of dimethyl sulfoxide, 261
Oxidation, of benzene-1,2-diol by hexachloroiridate (IV), 1081
—, of fluorenes by ammonium meta vanadate, a kinetic study, 883
—, kinetics of mandelic acid by cerium(IV), 415
—, palladium(II) chloride catalyzed, of allyl alcohol by potassium hexacyanoferrate(III), kinetics of, 813
Oxidation reactions of ethylene, 757
Oxidation two-electron, of ascorbate by oxygen in presence of cuprous-ion, 461
Oxygen (^1D), quantum yield for in ozone photolysis, 605
Oxygen atom, reactions with carbonothioicdichloride and carbonothioicdifluoride, 453
Ozone photolysis, quantum field for $O(^1D)$ in Hartley band, 605
Ozonolysis, of olefins in the gas phase, 399

Permanganate, oxidation of amino acids, 165
Persistence, of primary alkyl radicals, 1163
Phosphorescence, of $SO_2(^3B_1)$, 125
Photochemical smog, 1137
—, computer modelling of reactions in, 1097
—, modeling of reactivity of propene and *n*-butane in, 45
Photolysis, of the azoalkanes—azoethane, azo-*n*-propane, and azoiopropane, 951
—, of *n*-butyraldehyde in isooctane, 239
—, of *n*-butyraldehyde vapor, 219
—, of propene, *n*-butane, and oxides of nitrogen in smog chambers, modeling of, 45
Photooxidation, of propene and *n*-butane in photochemical smog, modeling of, 45
Production of hydroxycarbonyl radical, from decomposition of HCOOH on Pt, 445
Pyrolysis, of carbon diselenide in shock waves, 1109
—, of 4-chloro-1-butene, 5-chloro-1-pentene, and 6-chloro-1-hexene, 1279
—, of cyclobutyl chloride, 11
—, dimethylaminoethyl chloride and methoxyethyl chloride, 109
—, of ethane, 23
—, of silane, 1167
—, 2,2,3,3-tetramethylbutane, 867
—, of 2,2,3,3-tetramethylbutane, 1131, 1133(C)

Quantum effects, in relation to the kinetic isotope effects, 665
Quenching, of $SO_2(^3B_1)$, 125
—, of *UF (*A*-state) by alkanes, 275

Radical equilibrium studies, the thermodynamic parameters of *s*-butyl, 199
Radiolysis, of water vapor–cyclohexane mixtures, 345, 345
Rate constant, of methyl peroxy radicals with themselves and with SO_2, 907
—, for mutual interaction of ethylperoxy radicals, 1211
—, for the mutual reactions of ClO radicals, 649
—, for the mutual interaction of ethyl radicals, 995
—, for reaction of nitrogen dioxide with hydroperoxyl radical, pressure dependence of, 635
Reaction, between nitrous acid and hydrogen peroxide in perchloric acid, 339(C)
—, of methoxy radicals with nitric oxide and nitrogen dioxide, 1183
—, of methoxy radicals with oxygen, 1045
—, of silylene with self, with hydrocarbons, 1167
Recombination, of 2-arylindandione-1,3-yl radicals, 621
—, of phenyl-substituted phenoxyl radicals, 357
Recombination of trifluoromethyl radical, 775
Reduction, of metal complexes in nonaqueous solutions, 741
Resonance fluorescence, discharge flow technique for the study of the reaction of bromine atoms with ozone, 799
—, flash photolysis technique, in the study of hydroxyl radical reactions with halogenated ethanes, 187
Retro-ene decomposition, of hex-1-ene, 1071
Ring-opening, of chlorocyclopropanes, 937

Semi-ionic reactions, of chlorocyclopropanes, 937
Sensitivity analysis, 427, 1137
—, and kinetic modeling, algorithm for, 1237
SF_6 sensitizer, for hydrocarbon pyrolysis with CO_2 laser, 595
Shock tube, calculation for non-equilibrium decomposition of cyclopropane, 1007
—, dissociation of carbon diselenide, 1109
Shock-tube decomposition of nitric oxide, effects of boundary layers, 305
Shock-tube studies, boundary layers in, 285
—, sampling effects on observed cyclopropane isomerization, 915
Silver (I), catalysis in the oxidation of amino acids by $KMnO_4$,, 165
Single pulse shock tube, comparative rate study of silane decomposition, 1167
Smog chamber, modeling of reactions of propene, *n*-butane and nitrogen oxide photolysis in, 45
Spectrum, of Cl_2O_2 in the ultraviolet, 649
—, of the ethylperoxy radical from 220 to 280 nm, 1211
—, of the ethyl radical from 234 and 255 nm, 995
Steady-state approximation, applicable time regime for, 687
Sulfur-containing compounds, reactions with oxygen atoms, 453
Sulfur-iodine bonds, 579
Surfaces, stable and nonreactive, a simple preparation for gas kinetic studies of hydrogen atoms, 411
System Cu^{2+}–ascorbic acid–O_2, kinetics and mechanism oxidation of ascorbic acid, 461

Taft correlation for halogen substituents, 103(C)
Thermal decomposition, of ethane, 23
Thermal decomposition of bis-pentafluorosulfur trioxide, 1089

Thermal reactions, 757
Thermodynamic parameters, of *s-YL*, 199
Transition state, estimation of its position along the reaction coordinate, 853

Unimolecular reactions, competitive, at low pressures, 11
UV absorption spectrum, of peroxynitric acid, 635

Validation, of mechanism for photooxidation of propene and *n*-butane in photochemical smog, 45
Very-low-pressure pyrolysis, of hex-1-ene, 1071
—, of neopentane and tetramethyltin, 529
Very-low-pressure pyrolysis experiments, interpretation of pressure-dependence in, 317

Wall effects, in the pyrolysis of diethylether, 789
Wall reactions, of chlorine atoms and ClO radicals, 543
Water radiolysis, computer modelling, 1097
Weak collisions, effect of, on the non-steady state of cyclopropane isomerization, 1007

Index of Compounds to Vol. XI

Acetone, hydrogen abstraction by radicals CH_3 and $Br^{\cdot}$ from, 853
Alanine, oxidation by permanganate, 165
Alkanes, quenching of $^*UF_6$ (A-state) by, 275
Alkenyl chlorides, gas phase pyrolysis of, 1279
Alkoxy radicals, gas phase decomposition of, 977
Allyl alcohol, palladium (II) chloride catalysed oxidation by potassium hexacyanoferrate (III), 813
Allylic radicals, combination and disproportionation with alkyl radicals, 1055
Ammonium meta vanadate, oxidation by, of fluorenes, a kinetic study, 883
2-Arylindandion-1,3-yl radicals, recombination of, 621
Ascorbic acid, kinetics and mechanism oxidation by oxygen, 461
Aspartic acid, oxidation by permanganate, 165
Azoethane, Azo-n-propane, azoisopropane, photolysis of, 951
—, flash photolysis in the presence of oxygen, 1211
—, flash photolysis of, 995

Benzene-1,2-diol, reaction with hexachloroiridate (IV), 1081
Benzene-1,3-diol, reaction with hexachloroiridate (IV), 1081
Benzyl radical, termination rate constants in solution, 705
Bis-pentafluorosulfur trioxide, 1089
—, kinetics of the decomposition in the presence of carbon monoxide, 613
1,2-Bis (trifluoromethyl)-1,2,3,3-tetrafluorocyclopropane, thermal decomposition and isomerization, 1287
Brom, hydrogen abstraction from hydrocarbon substrates, 853
Bromine atoms, reaction rate constant with ozone from 234–360 K, 799
Bromotrichloromethane, reactions with methyl radicals, 511
n-Butane, hydrogen abstraction by radicals $CH_3^{\cdot}$, $CF_3^{\cdot}$, and $Br^{\cdot}$ from, 853
—, modeling of reactions in photochemical smog, 45
s-Butyl, the thermodynamic parameters of, 199
t-Butyl, formation from 2,2,3,3 tetramethylbutane decomposition heat of formation, entropy, 867
t-Butyl radical, combination with allylic radicals, 1055
—, reaction with HI(DI), 969
n-Butyraldehyde, photolysis of in isooctane, 239
—, vapor phase photolysis, 219

Carbon diselenide, pyrolysis in shock waves, 1109
Carbon monoxide, ignition in oxygen mixtures, 687
—, mechanism of reaction with oxygen, 821
Carbonothioicdichloride, reaction with O atoms, 453
Carbonothioicdifluoride, reaction with O atoms, 453
Carbon tetrachloride, reaction with hydroxymethyl radicals, 495
Ceric sulphate, kinetics of oxidation of mandelic acid by, 415
Cis, cis-1,5-cyclooctadiene, unimolecular formation from cis, trans-1,5-cyclooctadiene, kinetics and mechanism of, 1249
Cis-1,2-divinylcyclobutane, unimolecular transformations to cis, cis- and to cis, trans-1,5-cyclooctadiene, kinetics of; unimolecular formation from cis, trans-1,5-cyclooctadiene, kinetics of; heat of formation, 1249
Cis, trans-1,5-cyclooctadiene, unimolecular transformation and formation from cis-1,2,divinylcyclobutane, kinetics of, 1249
Chloramine-T, as an oxidizer for dimethyl sulfoxide, 261
Chlorine, flash photolysis of in the presence of oxygen or chlorine monoxide, 649
Chlorine atoms, bimolecular reaction with methane, 147
—, wall reactions, 543
Chlorine dioxide, flash photolysis of, 649
Chlorine monoxide, flash photolysis of, 649
Chlorine monoxide radicals, wall reactions, 543
4-Chloro-1-butene, gas phase pyrolysis of, 1279
Chlorocyclopropanes, ring-opening of, 937
Chlorodimethylcyclopropanes, ring-opening of, 937
6-Chloro-1-hexene, gas phase pyrolysis of, 1279
Chloromethanes, reactions with methyl radicals, 511
5-Chloro-1-pentene, gas phase pyrolysis of, 1279
Chlorotrifluoroethene, kinetics of cycloadditon of hexafluoropropene, 1029
—, kinetics of dimerization, 585
Cl_2O_2, formation from Cl0 radicals, ultraviolet absorption spectrum, heat of formation, bond energies, 649
ClO radical, rate constants for the mutual reactions of, equilibrium with Cl_2O_2, 649
CO (III) $acac_3$, reduction of by Fe(II) on CH_3Ca, 741
Cyclobutane, collisional energy transfer in, 317
Cyclobutyl chloride, pyrolysis of, 11
Cycloheptatriene, collisional energy transfer in, 317
Cyclohexane, hydrogen abstraction by radicals $CH_3^{\cdot}$ and $CF_3^{\cdot}$ from, 853
Cyclohexyl radical, disproportionation/combination ratio, 345
Cyclopropane, as a comparative rate internal standard in shock initiated kinetic studies, 1167
—, hydrogen abstraction by radicals CH_3 and $Br^{\cdot}$ from, 853
—, isomerization of, 915
—, kinetics of acid-catalyzed hydration, 1021
—, model for non-steady state reaction, 1007
—, ring-opening of chlorinated, 937

Di-6-heptenoyl peroxide, decomposition of, 333
Dichlorine dioxide (Cl_2O_2), formation from ClO radicals, ultraviolet absorption spectrum, heat of formation, bond energies, 649
Diethylether, wall effects in the pyrolysis of; a case

of hetero-homogeneous pyrolysis at 500°C, 789
1,1-Difluoro,1,2-dichloroethane, reaction with OH, 187
Dimethylaminoethyl chloride, gas phase pyrolysis of, 109
Dimethyl sulfoxide, oxidation by Chloramine-T, 261
Diphenylmethane, hydrogen abstraction by radical Br· from, 853

Ethane, hydrogen abstraction by radicals CH_3, CF_3 and Br· from, 853
—, SF_6 sensitized laser pyrolysis, 595
—, thermal decomposition of, 23
Ethylperoxy radical, absorption spectrum and rate constant for mutual interaction, 1211
Ethyl radical, absorption spectrum and rate constants for mutual interaction, 995
—, disproportionation and combination with allylic radicals, 1055
Ethylene, 757

Fluorenes, oxidation of, by ammonium meta vanadate, a kinetic study, 883
Formic acid, decomposition on platinum, 445

Glutamic acid, oxidation by permanganate, 165
Glycine, oxidation by permanganate, 165

H_2S, reaction with I_2, 579
Hex-1-ene, pyrolysis of, 1071
Hexafluoroaromethane, homogeneous, decomposition of, 775
Hexachloroiridate(IV), reaction with benzene-1,2-diol, 1081
Hexafluoropropene, kinetics of cyclodimerization and cycloaddition to chlorotrifluoroethene, 1029
HSI, preparation of, 579
Hydrogen atoms, a simple preparation of stable nonreactive surfaces for gas kinetic studies, 411
Hydroperoxy radical, reaction with nitrogen dioxide, 635
Hydroxymethyl radical, combination, cross-combination with trichloromethyl radicals, and reaction with carbon tetrachloride, 495
Hydroxycarbonyl radical, production from formic acid decomposition on platinum, 445
Hydroxyl radical, linear free energy correlations with $O(^3P)$, 1197
—, reaction with halogenated ethanes, 187
Hypochlorous acid, reaction with NO, 843

I_2, reaction with H_2S, 579
I atoms, reaction with H_2S, 579
Iodo-methylmalonic acid, equilibrium of with iodine and methylmalonic acid, 131
Iron III (hexadimethyl formamide), 1
Isobutane, hydrogen abstraction by radicals CH_3, CF_3, and Br· from, 853
Isobutene, hydrogen abstraction by radicals CH_3 and Br· from, 853

Mandelic acid, kinetics of cerium (IV) oxidation of, 415
Manganese III Tris (acetylacetate), 1
Methane, hydrogen abstraction by chlorine atoms from, 147
—, hydrogen abstraction by radicals CH_3, CF_3 and Br· from, 853
Methoxy radicals, reaction with nitric oxide and nitrogen dioxide, 1183
—, reaction with oxygen, 1045
Methyl, hydrogen abstraction from hydrocarbon substrates, 853
Methylmalonic acid, iodination, 131
Methyl radical, reaction with chloromethanes and bromotrichloromethane, 511
—, heat of formation, 147
Methoxyethyl chloride, gas phase pyrolysis of, 109
1-Methylcyclohexene, decomposition in flow system, 867
Methylperoxy radical, 907
—, recombination and reaction with sulfur dioxide; extinction coefficients, 921
Mn(III) $acac_3$, reduction by Fe(II) in CH_3Ca, 741
Monoaquopentachloroiridate (III), formation in the reaction of between hexachloroiridate (IV) and benzene-1,2-diol, 1081

N-butyl acetate, 3,3 dimethyl, pyrolysis of, 561
N-butyl acetate, 3-methyl, pyrolysis of, 561
Neopentane, hydrogen abstraction by radicals CH_3 and Br· from, 853
—, very low-pressure pyrolysis of, 529
Neopentyl chloride, α-elimination in pyrolysis of, 1271
Nitric oxide, decomposition in shock-tubes, 305
—, reaction with HOCl and ClO^-, 843
—, reaction with methoxy radicals, 1183
Nitrogen dioxide, reaction with hydroperoxy radical, 635
—, reaction with methoxy radicals, 1183
Nitrogen oxides, modeling of reactions with propane and n-butane in photochemical smog, 45
N-methyl-n-β-hydroxyethyl picramide, reaction with sulfite ion, 375

OH radical, 569
Olefins, reaction with ozone, 399
Osium tetraoxide, as a catalyst for oxidation of dimethyl sulfoxide, 261
Oxygen, kinetics and mechanism oxidation of ascorbic acid, 461
Oxygen ($^1\Sigma_g^+$), collisional deactivation of, by oxygen, nitrogen and helium, 175
Oxygen (^1D), quantum yield for in ozone photolysis, 605
Oxygen atoms, linear free energy correlations with OH, 1197
Ozone, quantum yield for O (^1D) in Hartley band, 605
—, reaction rate constant with bromine atoms from 234–360 K, 799
—, reaction with olefins, 399

Peroxynitric acid, UV absorption spectrum and formation rate constant from reaction of nitrogen dioxide with hydroperoxy radical, 635
Phenyl alanine, oxidation by permanganate, 165
Phenylsubstituted phenoxyl radicals, recombination of, 357
Platinum, catalyzed decomposition of formic acid, 445
Propane, hydrogen abstraction by radicals CH_3, CF_3, and Br· from, 853
—, SF_6 sensitized laser pyrolysis, 595
Propene, hydrogen abstraction by radicals CH_3, CF_3, and Br· from, 853

—, modeling of reactions of, in photochemical smog, 45
Propyl radical, combination with allylic radicals, 1055
Propylene, kinetics of acid-catalyzed hydration, 1021
—, reaction with ozone, 399

S Atom, 569
Selenium atoms (^3P), pyrolytic production in shock waves, 1109
Serine, oxidation by permanganate, 165
SH radical, 579
Silane, decomposition kinetics, mechanism of decomposition in shock waves, mechanism of decomposition in static system pyrolysis, 1167
Silylene, formation of in silane decomposition, reactions of, with silylene, with benzene, with toluene, with methane, 1167
SO_2, phosphorescence of, 125
—, quenching of triplet, 125
—, triplet lifetime of, 125
SO radical, 569
Sugars, oxidation by vanadium, 731
Sulfite ion, reaction with N-methyl-N-β-hydroxyethyl picramide and its spiro complex, 375
Sulfur dioxide, 907

1,1,1,2-Tetrachloroethane, chlorination and dehydrochlorination of, 117
1,1,1,2-Tetrafluoro, 2-chloroethane, reaction with OH, 187
2,2,3,3-Tetramethylbutane, decomposition in flow experiments toluene, as inhibitor, 867
Tetramethyltin, very low-pressure pyrolysis of, 529
Threonine, oxidation by permanganate, 165
Toluene, hydrogen abstraction by radicals CH_3, CF_3, and Br· from, 853
trans-Butene, hydrogen abstraction by radicals CH_3 and Br· from, 853
Trichloroethylene, addition of a Cl atom on, 117
Trichloromethyl radicals, addition to tetrachloroethylene, 1263
—, combination and cross-combination with hydroxymethyl radicals, 495
Tricyclo(8.6.0.0^{2,9}) hexadeca-5, 13-diene, three stereoisomers, bimolecular formation from cis, trans-1,5-cyclooctadiene in the gas phase, kinetics of, 1249
Triethylsilane, chlorination by chloromethanes, 899
1,1,1-Trifluoro,2,2-dichloroethane, reaction with OH, 187
Trifluoromethyl, hydrogen abstraction from hydrocarbon substrates, 853
Trifluoromethyl radical, recombination of, 775
(Tri-tert-butylsilyl) carbinyl, rate constants for self-reaction, 1163

Uranium hexafluoride, excited state kinetics of, 275

Vanadium, oxidation of sugars, 731
Vinyl Ethers, decomposition of ethylvinylether, t-butylvinylether, and benzylvinylether, 715

Water, effect of traces on combustion of carbon monoxide, 821
Water vapor, radiolysis of, 345

m-Xylene, hydrogen abstraction by radicals CH_3 and Br· from, 853
o-Xylene, hydrogen abstraction by radicals CH_3 and CF_3 from, 853
p-Xylene, hydrogen abstraction by radicals CH_3 and Br· from, 853

INTERNATIONAL JOURNAL OF

CHEMICAL KINETICS

VOLUME 11, 1979

Editor-in-Chief
SIDNEY W. BENSON

Assistant Editor
NORMAN COHEN

Editorial Board

Peter Ausloos
M. A. A. Clyne
R. J. Cvetanovic
N. M. Emanuel
D. M. Golden
A. Henglein
G. Huybrechts
Keith U. Ingold
F. Kaufman
Y. T. Lee
Robert Madix
R. A. Marcus
Richard M. Noyes
Otto P. Strausz
John Tedder
J. Troe
Eric Whittle

an Interscience® Publication
published by JOHN WILEY & SONS
NEW YORK · CHICHESTER · BRISBANE · TORONTO

Published monthly, one volume per year, by John Wiley & Sons, Inc., 605 Third Avenue, New York, New York 10016. Copyright © 1979 by John Wiley & Sons, Inc., 605 Third Avenue, New York, New York 10016. All rights reserved. Reproduction or translation of any part of this work beyond that permitted by Sections 107 or 108 of the United States Copyright Law without the permission of the copyright owner is unlawful. Second-class postage paid at New York, New York and at additional mailing offices.

The code and the copyright notice appearing at the bottom of the first page of an article in this journal indicate the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients, on the condition that the copier pay for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. The per-copy fee for each article appears after the dollar sign and is to be paid through the Copyright Clearance Center, Inc. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Such permission requests and other permission inquiries should be addressed to the publisher.

Subscription price: $160.00 per volume. Postage and handling outside U.S.A.: $13.00. Please allow 4 weeks for change of address. Back volumes, microfilm and microfiche available for previous years. Request price list from publisher.

Claims for undelivered copies must be made no later than three months following month of publication. Missing copies will be supplied when losses have been sustained in transit and where reserve stock will permit.

Manuscripts should be submitted to the Editor-in-Chief, Sidney W. Benson, Department of Chemistry, University of Southern California, Los Angeles, California 90007. Address all other correspondence to the Journals Department, John Wiley & Sons, Inc., 605 Third Avenue, New York, New York 10016.

INTERNATIONAL JOURNAL OF

CHEMICAL KINETICS

Contents, Volume 11, 1979

No. 1, January 1979

Kinetics and Mechanism of Acetylacetonate Transfer from Acetylacetonatomanganese(III) to Iron(III) in Acetonitrile Catalysis and Inhibition Effects
R. Schmid and V. N. Sapunov 1

Competitive Unimolecular Reactions at Low Pressures. The Pyrolysis of Cyclobutyl Chloride
K. D. King, B. J. Gaynor, and R. G. Gilbert 11

Thermal Decomposition of Ethane
D. B. Olson, T. Tanzawa, and W. C. Gardiner, Jr. 23

Computer Modeling of Smog Chamber Data: Progress in Validation of a Detailed Mechanism for the Photooxidation of Propene and *n*-Butane in Photochemical Smog
W. P. L. Carter, A. C. Lloyd, J. L. Sprung, and J. N. Pitts, Jr. 45

Erratum

A Correction of the Taft Correlation for Halogen Substituents in Isopropyl α-Halo Acetates Pyrolyses
G. Chuchani, J. A. Hernandez, and M. E. Alonso 103

Book Review

Classical Kinetic Theory of Fluids by R. Resibois and M. de Leener
Reviewed by *H. L. Frisch* 105

Information for Contributors 107

No. 2, February 1979

Neighboring Group Participation of Polar β Substituents in the Gas-Phase Pyrolysis of 2-Substituted Ethyl Chlorides
G. Chuchani, I. Martin, and G. Martin 109

Competitive Chlorination–Dehydrochlorination of 1,1,1,2-$C_2H_2Cl_4$
J. Olbregts 117

Pressure Saturation of $SO_2(^3B_1\ 0,0,0)$ Lifetimes
F. B. Wampler, R. C. Oldenborg, and W. W. Rice 125

Kinetics and Mechanism for the Iodination of Methylmalonic Acid
S. D. Furrow 131

The Very-Low-Pressure Study of the Kinetics and Equilibrium: $Cl + CH_4 \rightleftarrows CH_3 + HCl$ at 298 K. The Heat of Formation of the CH_3 Radical
M. H. Baghal-Vayjooee, A. J. Colussi, and S. W. Benson 147

Mechanistic Details of the Belousov–Zhabotinsky Oscillations. II. The Organic Reaction Subset
D. Edelson, R. M. Noyes, and R. J. Field 155

Kinetics of Oxidation of Some Amino Acids by $KMnO_4$ in a Moderately Concentrated H_2SO_4 Medium in the Presence and Absence of Ag^+
V. S. Rao, B. Sethuram, and T. N. Rao 165

Collisional Deactivation of $O_2(^1\Sigma_g^+)$
J. P. S. Chatha, P. K. Arora, SMT. Nalini Raja, P. B. Kulkarni, and K. G. Vohra 175

A Kinetics Study of the Temperature Dependence of the Reactions of $OH(^2\Pi)$ with CF_3CHCl_2, CF_3CHClF, and CF_2ClCH_2Cl
R. T. Watson, A. R. Ravishankara, G. Machado, S. Wagner, and D. D. Davis 187

Radical Equilibrium Studies. II. The Thermodynamic Parameters of *s*-Butyl
R. M. Marshall and N. D. Page 199

Information for Contributors 217

No. 3, March 1979

The Kinetics and Mechanism of *n*-Butyraldehyde Photolysis in the Vapor Phase at 313 nm
S. Förgeteg, T. Bérces, and S. Dóbé 219

The Photolysis of *n*-Butyraldehyde in Isooctane at 313 nm
S. Förgeteg and T. Bérces 239

Kinetics and Mechanism of Oxidation of Dimethyl Sulfoxide by Chloramine-T in Aqueous Solution
D. S. Mahadevappa, M. B. Jadhav, and H. M. K. Naidu 261

Quenching of $^*UF_6$ (*A* State) by Alkanes
F. B. Wampler, W. W. Rice, and R. C. Oldenborg 275

Evaluation of Boundary-Layer Effects in Shock-Tube Studies of Chemical Kinetics
N. Fujii, M. Koshi, H. Ando, and T. Asaba 285

Shock-Tube Study of Thermal Decomposition of Nitric Oxide between 2700 and 3500 K
M. Koshi and T. Asaba 305

The Interpretation of Pressure-Dependent Very-Low-Pressure Pyrolysis Experiments
R. G. Gilbert, B. J. Gaynor, and K. D. King 317

The 5-Hexenyl Cyclization
P. Schmid, D. Griller, and K. U. Ingold 333

COMMUNICATION TO THE EDITOR

Comments on the Paper "Reaction Between Nitrous Acid and Hydrogen Peroxide in Perchloric Acid Medium"
A. Haim, N.-Y. Wang, and F. T. Bonner 339

Information for Contributors 343

No. 4, April 1979

Disproportionation-to-Combination Ratios for Cyclohexyl-h_{11} and -d_{11} Radicals in the Gas Phase as Determined by the Radiolysis of Water Vapor–Cyclohexane Mixtures
N. Fujisaki and T. Gäumann 345

Bimolecular Self-Reactions of Phenyl-Substituted Phenoxyl Radicals Studied by Flash Photolysis
I. V. Khudyakov, P. P. Levin, V. A. Kuzmin, and C. R. H. I. de Jonge 357

Anionic σ-Complexes from Sulfite Ion Attack on *N*-Methyl-*N*-β-Hydroxyethyl Picramide and Its Spiro Complex. Search for Geometric Isomerism in 1:2 Complexes. An Instructive Example of Complex Kinetics
C. F. Bernasconi and H.-C. Wang 375

A New Mechanism for the Reaction of Ozone with Olefins
M. C. Dodge and R. R. Arnts 399

A Simple Preparation of Stable, Nonreactive Surfaces for Gas Kinetic Studies of Reactions of Hydrogen Atoms
A. Sepehrad, R. M. Marshall, and H. Purnell 411

Kinetics of Cerium(IV) Oxidation of Mandelic Acid. Ionic Strength and Specific Cation Effects
G. Arcoleo, G. Calvaruso, F. P. Cavasino, and E. Di Dio 415

Automatic Sensitivity Analysis of Kinetic Mechanisms
M. Koda, G. J. McRae, and J. H. Seinfeld 427

Evidence for Production of the Hydroxycarbonyl Radical in the Decomposition of Formic Acid on Platinum
D. E. Tevault, M. C. Lin, M. E. Umstead, and R. R. Smardzewski 445

Information for Contributors 451

No. 5, May 1979

Study of the Reactions of Oxygen Atoms with Carbonothioicdichloride, Carbonothioicdifluoride, and Tetrafluoro-1,3-dithietane
I. R. Slagle and D. Gutman 453

Mechanism of Catalytic Ascorbic Acid Oxidation System Cu^{2+}–Ascorbic Acid–O_2
E. V. Shtamm, A. P. Purmal, and Yu. I. Skurlatov 461

Rate Constants for the Combination of Trichloromethyl Radicals and the Electron-Transfer Reaction Between Hydroxymethyl Radicals and Carbon Tetrachloride in Solution
H. Paul 495

The Reactions of Methyl Radicals with Chloromethanes
K. V. Macken and H. W. Sidebottom 511

Very-Low-Pressure Pyrolysis (VLPP) of Group IV(A) Tetramethyls: Neopentane and Tetramethyltin
A. C. Baldwin, K. E. Lewis, and D. M. Golden 529

Chlorine Atom and ClO Wall Reaction Products
L. R. Martin, A. G. Wren, and M. Wun 543

Information for Contributors 559

No. 6, June 1979

Effect of Substituents in the Gas-Phase Elimination Kinetics of β-Substituted Ethyl Acetates
G. Chuchani, I. Martin, and I. Avila 561

Kinetic Study of Some Elementary Reactions of Sulfur Compounds Including Reactions of S and SO with OH Radicals
J. L. Jourdain, G. Le Bras, and J. Combourieu 569

Kinetics of Iodination of Hydrogen Sulfide by Iodine and the Heat of Formation of the SH Radical
R. J. Hwang and S. W. Benson 579

The Kinetics of Dimerization of Chlorotrifluoroethene
B. Atkinson and C. Tsiamis 585

Photosensitized Decomposition of Hydrocarbons by Infrared-Laser-Induced Energy Transfers
H. Pazendeh, C. Marsal, F. Lempereur, and J. T. de Maleissye 595

Absolute Quantum Yield of $O(^1D_2)$ in the Photolysis of Ozone in the Hartley Band
O. Kajimoto and R. J. Cvetanović 605

The Kinetics and the Mechanism of the Thermal Decomposition of Bis-Pentafluorosulfurtrioxide (SF_5OOOSF_5)
J. Czarnowski and H. J. Schumacher 613

Bimolecular Self-Reactions of 2-Arylindandione-1,3-yl Radicals Studied by Flash Photolysis
I. V. Khudyakov, A. I. Yasmenko, and V. A. Kuzmin 621

Kinetics of the Reaction of $HO_2 + NO_2(+M) = HO_2NO_2$ Using Molecular Modulation Spectrometry
R. A. Cox and K. Patrick 635

Mutual Combination of ClO Radicals
N. Basco and J. E. Hunt 649

Quantum Effects and Isotope Effects in Chemical Kinetics
S. G. Christov and M. Parlapanski 665

Information for Contributors 685

No. 7, July 1979

The Question of the Applicable Time Regime for the Steady-State Approximation in the Simulation of Complex Mechanisms
D. Edelson 687

The Detailed Mechanism of the Dushman Reaction Explored by Computer
H. A. Liebhafsky and G. M. Roe 693

Rate Constants for the Termination of Benzyl Radicals in Solution
M. Lehni, H. Schuh, and H. Fischer 705

Homogeneous Decomposition of Vinyl Ethers. The Heat of Formation of Ethanal-2-yl
M. Rossi and D. M. Golden 715

Kinetics and Mechanism of Oxidation of Sugars by Quinquevalent Vanadium in Binary Mixture Solvents of DMSO–Water and Acetic Acid–Water in H_2SO_4 Medium
S. C. Pati and M. Panda 731

Redox Kinetics of Metal Complexes in Nonaqueous Solutions. V. Kinetics and Mechanism of the Iron(II) Reduction of the Acetylacetonates of Manganese(III) and Cobalt(III) in Acetonitrile
R. Schmid and V. N. Sapunov 741

The Thermal Reactions of Ethylene at 500°C in the Presence and Absence of Small Quantities of Oxygen
M. H. Back and R. Martin 757

Rate of Decomposition of Hexafluoroazomethane and the Absolute Rate of Recombination of Trifluoromethyl Radical at Higher Temperatures
M. Rossi and D. M. Golden 775

Wall Effects in the Pyrolysis of Diethylether. A Case of Hetero-Homogeneous Pyrolysis at 500°C
J. F. Foucaut and R. Martin 789

Absolute Rate Constants for the Reaction of Bromine Atoms with Ozone from 234 to 360 K
J. V. Michael and W. A. Payne 799

Information for Contributors 811

No. 8, August 1979

Kinetics and Mechanism of Palladium (II) Chloride Catalyzed Oxidation of Allyl Alcohol by Potassium Hexacyanoferrate (III)
I. Ahmad and C. M. Ashraf 813

A Model for Explosions during Carbon Monoxide Oxidation
M. J. Pilling and R. M. Noyes 821

Reaction of NO with Hypochlorous Acid
E. Ghibaudi, J. R. Barker, and S. W. Benson 843

Estimating the Positions of Transition States from Experimental Data
M. V. Basilevsky, N. N. Weinberg, and V. M. Zhulin 853

Thermal Decomposition of Hexamethylethane in a Flow System
J. A. Walker and W. Tsang 867

Oxidation of Fluorenes by Ammonium Meta Vanadate—A Kinetic Study
S. Narasimhan and N. Venkatasubramanian 883

Abstraction of Chlorine Atoms from Chloroalkanes. V. The Liquid-Phase Reaction Between Et_3SiH Radicals and CH_2Cl_2, $CHCl_3$, and CCl_3CN
R. Aloni, L. A. Rajbenbach, and A. Horowitz 899

The Reaction of CH_3O_2 with SO_2
E. Sanhueza, R. Simonaitis, and J. Heicklen 907

Sampling Effects on Observed Cyclopropane Isomerization in a Single Pulse Shock Tube
P. M. Jeffers and J. Northing 915

Kinetic Flash Spectroscopic Study of the CH_3O_2–CH_3O_2 and CH_3O_2–SO_2 Reactions
C. S. Kan, R. D. McQuigg, M. R. Whitbeck, and J. G. Calvert 921

Information for Contributors 935

No. 9, September 1979

Kinetics of the Reactions of Cyclopropane Derivatives. V. The Gas-Phase Unimolecular Reactions of 1α-Chloro-2α,3α-dimethylcyclopropane and 1α-Chloro-2α,3β-dimethylcyclopropane
P. J. Robinson and M. J. Waller 937

Excited-State Kinetics of Azoalkanes: Some Further Studies with Azoethane, Azo-*n*-propane, and Azoisopropane
G. O. Pritchard and P. E. Marchant 951

The Absolute Rate Constant for the Metathesis t-$C_4H_9\cdot$ + DI → C_4H_9D + I· and the Heat of Formation of the t-Butyl Radical
M. Rossi and D. M. Golden 969

The Gas-Phase Decomposition of Alkoxy Radicals
L. Batt 977

A Quantitative Study of Alkyl Radical Reactions by Kinetic Spectroscopy III. Absorption Spectrum and Rate Constants of Mutual Interaction for the Ethyl Radical
H. Adachi, N. Basco, and D. G. L. James 995

Weak Collision Effects: Non-Steady-State Thermal Unimolecular Reactions
R. J. Malins and D. C. Tardy 1007

The Kinetics of the Solvolysis of Propylene and Cyclopropane in Concentrated Aqueous Sulfuric Acid. Relative Energies of the 2-Propyl Cation and Protonated Cyclopropane
D. Viviani and J. B. Levy 1021

Information for Contributors 1027

No. 10, October 1979

Kinetics of Cyclodimerization of Hexafluoropropene and of Its Cycloaddition to Chlorotrifluoroethene
B. Atkinson and C. Tsiamis 1029

Reaction of Methoxy Radicals with Oxygen. I. Using Dimethyl Peroxide as a Thermal Source of Methoxy Radicals
L. Batt and G. N. Robinson 1045

Combination and Disproportionation Reactions of Allylic Radicals with Ethyl, Propyl, and *t*-Butyl Radicals
D. L. Baulch, P. K. Chown, and D. C. Montague 1055

Very Low-Pressure Pyrolysis (VLPP) of Hex-1-ene. Kinetics of the Retro-ene Decomposition of a Mono-Olefin
K. D. King 1071

Reduction of Hexachloroiridate (IV) by Benzene-1,2-diol in Aqueous Perchloric Acid
D.F.C. Morris and T. J. Ritter 1081

Kinetics of the Thermal Decomposition of Bis-Pentafluorosulfur Trioxide ($SF_5O_3SF_5$) in the Presence of Carbon Monoxide
J. Czarnowski and H. J. Schumacher 1089

A Program Package Using Stiff, Sparse Integration Methods for the Automatic Solution of Mass Action Kinetics Equations
M. B. Carver and A. W. Boyd 1097

Pyrolytic Production of Se(^3P) from Carbon Diselenide. II. Rate of CSe_2 Decay
R. L. Belford, J. R. Marquart, H. A. Fraenkel, A. J. Cross, Jr., T. M. Lenhardt, and G. J. Wei 1109

Communication to the Editor

Comments on the Paper "Gas-Phase Pyrolysis of 2,2,3,3-Tetramethylbutane Using a Wall-less Reactor"
H. Davis 1131

Reply to "Comments on 'Gas-Phase Pyrolysis of 2,2,3,3-Tetramethylbutane Using a Wall-less Reactor' by H. Davis"
J. E. Taylor 1133

Book Review

Protons and Ions Involved in Fast Dynamic Phenomena, edited by P. Laszlo
Reviewed by *F. W. Schneider* 1135

No. 11, November 1979

Sensitivity and Uncertainty of Reaction Mechanisms for Photochemical Air Pollution
A. H. Falls, G. J. McRae, and J. H. Seinfeld 1137

Primary Alkyl Radicals: Can They Be Persistent?
D. Griller and P. R. Marriott 1163

Kinetics and Mechanism of the Silane Decomposition
C. G. Newman, H. E. O'Neal, M. A. Ring, F. Leska, and N. Shipley 1167

The Reaction of Methoxy Radicals with Nitric Oxide and Nitrogen Dioxide
L. Batt and G. N. Rattray 1183

Predicting Gas Phase Organic Molecule Reaction Rates Using Linear Free-Energy Correlations. I. O(^{3}P) and OH Addition and Abstraction Reactions
J. S. Gaffney and S. Z. Levine 1197

The Ethylperoxy Radical Spectrum and Rate Constant for Mutual Interaction Measured by Flash Photolysis and Kinetic Spectroscopy
H. Adachi, N. Basco, and D. G. L. James 1211

No. 12, December 1979

Mechanistic Details of the Belousov–Zhabotinsky Oscillations. III. The Induction Period
D. Edelson 1231

A Computational Algorithm for the Green's Function Method of Sensitivity Analysis in Chemical Kinetics
E. P. Dougherty and H. Rabitz 1237

Kinetics of the Thermal Dimerization and Isomerization of *cis, trans*-1,5-Cyclooctadiene in the Gas Phase and of Related Reactions. A Simple Algorithm to Determine the Rate Constants of Competing First- and Second-Order Reactions
J. Leitich 1249

Addition of Trichloromethyl Radicals to Tetrachloroethylene
A. Horowitz and G. Baruch 1263

Evidence for α-Elimination from Neopentyl Chloride in the Gas Phase
R. L. Failes, Y. M. A. Mollah, and J. S. Shapiro 1271

Neighboring Olefinic Double-Bond Participation in Gas Phase Pyrolysis of Some Alkenyl Chlorides
G. Chuchani, J. A. Hernandez A., and I. Martin 1279

The Kinetics of the Gas-Phase Thermal Isomerization and Decomposition of *Trans*- and *Cis*-1,2-Bis(trifluoromethyl)-1,2,3,3-Tetrafluorocyclopropane
J. C. Ferrero and E. H. Staricco 1287

Book Review

Gas Kinetics and Energy Transfer, Vol. 3, P. J. Ashmore and R. J. Donovan, Senior Reporters
Reviewed by *N. Cohen* 1297

Announcement 1301

Author Index to Volume 11 1303

Subject Index to Volume 11 1309

Compound Index to Volume 11 1313

Information for Contributors 1317